

ABSTRACT

A fine particle uniformly holding a substance having a catalytic influence on a surface. Sputtering is performed by agitating or rotating the fine particles 3 in a vacuum
5 container 1, which has a polygon inner cross-section shape, by rotating the vacuum container 1, having a rotating axis almost vertical to the cross-section, and the surfaces of the fine particles 3 are coated with super-fine particles having a smaller particle diameter than that of the fine
10 particle, or a thin film. The super-fine particle or the thin film is composed of at least a metal catalyst or an oxide catalyst or a composite catalyst.